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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/308,403	10/21/1999	COLIN STANLEY FITCHETT	BB1180B	6086

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EXAMINER

PRATS, FRANCISCO CHANDLER

ART UNIT

PAPER NUMBER

1651

DATE MAILED: 03/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/308,403

Applicant(s)

FITCHETT, COLIN STANLEY

Examiner

Francisco C Prats

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1-18-02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 7-26 and 28-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-26 and 28-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 18, 2002, has been entered.

The amendment filed January 18, 2002, has been received and entered. The text of those sections of Title 35, U.S. Code, not included in this action can be found in a prior office action.

Claims 4-6 and 27 have been cancelled.

Claims 30-57 have been added.

Claims 1-3, 7-26 and 28-57 are pending and are examined on the merits.

Claim Rejections - 35 USC § 112

Claims 1-3, 7-26 and 28-57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The multiple use of "comprising" in claim 1 renders that claim and its dependents indefinite. Specifically, it is not clear what may be in the composition and what cannot be in the composition, and how many polysaccharide species must be present. The claim recites a composition which comprises an ingredient which comprises an ingredient. This is confusing because the recitation "the polysaccharide comprises arabinoxylan ferulate" suggests that there can be more than one polysaccharide, despite the fact that the initial recitation of the term "polysaccharide" appears in the singular ("a . . . polysaccharide"). The confusion as to the ingredients is particularly evident when claims 55 to 57 are read in light of claim 1, because the simultaneous use of closed ("consisting") and partially closed ("consisting essentially of") language with the two "comprising" recitations in claim 1 make it unclear which portion of claim 1 should be limited by the recitations in claims 55-57. It is suggested that applicant recite the product claims using a simple list of ingredients present therein, so as to clarify the issue. Claim 1 will be construed as reciting a hemicellulose composition comprising an oxidase, an oxidase substrate and arabinoxylan ferulate.

Note that the misspelled word "hemocellulosic" at line 3 of claim 1 technically renders claim 1 indefinite.

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The recitation "substantially free of molecular oxygen" in claim 10 is indefinite because it is not clear how much oxygen may be present.

Similarly, the recitation "substantially anhydrous" in claim 35 is indefinite because it is not clear how much water may be present.

Claims 55-57 are indefinite because, as discussed above, the multiple use of "comprising" in claim 1 makes it unclear as to which ingredients are to be limited by the closed ("consisting") and partially closed ("consisting essentially of") language appearing in claims 55-57.

Claim Rejections - 35 USC § 102

Claims 1-14, 16-26, 28-33, 35-47, 49-55 and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by Maat et al (U.S. Pat. 5,108,765) in light of Chemical Abstracts 79(5):30641 (1973).

Maat discloses flour compositions comprising a peroxidase and glucose oxidase. See, e.g., Abstract and Claims, in particular claims 7-11 at column 4. Flour inherently contains hemicellulose, including feruloylated arabinoxylans. See, e.g., Chemical Abstracts 79(5):30641 (1973). Note specifically that

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Maat discloses the use of wheat flour, as well as the use of horseradish peroxidase.

Thus, Maat clearly discloses a composition comprising the claimed hemicellulose, the claimed enzymes, and the claimed substrates. Note further that claims directed to gels and gelling processes are inherently anticipated by the flour disclosed in Maat because Maat's flour contains all of the claimed ingredients and because flour can be considered a gel. Note still further that the applications, such as wound plug, wound dressing etc., are considered to be met by the dough and bread disclosed in the reference because each of the dough and bread can be applied to the use recited in the claims.

A holding of anticipation is clearly required.

All of applicant's argument regarding this ground of rejection has been fully considered but is not persuasive of error. Applicant's argument, that 102 rejections must be made over a single reference, is clearly in error. MPEP § 2131.01 clearly states that "a 35 U.S.C. rejections over multiple references has been held to be proper when the extra references are cited to . . . (C) Show that the characteristic not disclosed in the reference is inherent." In this instance the secondary reference is cited to show that wheat flour inherently contains arabinoxylan ferulate. The use of the additional

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reference is clearly authorized by the MPEP and the cases cited therein.

Note further that, contrary to applicant's argument, the arabinoxylan ferulate present in wheat flour is in fact water soluble. See Geissman. Applicant's own specification verifies this. Thus, the hemicellulosic material in Maat's composition is in fact water soluble. Note further that the open "comprising language" of the claims does not exclude starch.

Note still further that the "consisting essentially of" language in the claims does not exclude the other ingredients in the prior art composition. MPEP § 2111.03 clearly states that "[t]he transitional phrase 'consisting essentially of' limits the scope of a claim to the specified materials or steps 'and those that do not materially affect the basic and novel characteristic(s)' of the claimed invention." (Citations omitted, emphasis in original.) Moreover, MPEP § 2111.03 states that claims recited in "consisting essentially of" language should be construed as if recited in open "comprising" language, absent some evidence that the additional ingredients in the prior art process/product materially affect the basic and novel properties of the claimed invention:

For the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or

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claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising." See, e.g., *PPG [Industries v. Guardian Industries]*, 156 F.3d at 1355, 48 USPQ2d at 1355 ("PPG could have defined the scope of the phrase 'consisting essentially of' for purposes of its patent by making clear in its specification what it regarded as constituting a material change in the basic and novel characteristics of the invention."). See also *In re Janakirama-Rao*, 317 F.2d 951, 954, 137 USPQ 893, 895-96 (CCPA 1963).

On the current record there is no evidence that any of the additional ingredients present in the prior art composition would affect the basic and novel properties of the prior art composition such that the prior art composition is truly different than the claimed composition. Thus, applicant's claims must be construed as if reciting "comprising" language, thereby encompassing the additional ingredients in the prior art composition, despite the "consisting essentially of" language. A holding of anticipation/obviousness is therefore required.

Note still further that MPEP 2111.03 further provides that "[w]hen an applicant contends that additional steps or materials in the prior art are excluded by the recitation of 'consisting essentially of,' applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant's invention."

(Citations omitted.)

Claim Rejections - 35 USC § 103

Claims 1-14, 16-26, 28-33, 35-47, 49-55 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Maat et al (U.S. Pat. 5,108,765) in view of Chemical Abstracts 79(5):30641 (1973).

As discussed above, claims 1-14, 16-26, 28-33, 35-47, 49-55 and 57 are considered to be anticipated by the Maat reference. However, because the claims recite numerous multiple dependencies, and therefore numerous combinations of limitations, it is possible that any of claims 1-14, 16-26, 28-33, 35-47, 49-55 and 57 may differ from the Maat disclosure. Similarly, however unlikely, it is also possible that applicant will demonstrate that Maat's flour does not contain hemicellulose, thereby mooting the anticipation rejection. However, Maat still renders the claimed invention obvious in view of the fact that Maat clearly provides motivation for combining horseradish peroxidase, glucose oxidase and glucose with a hemicellulose-containing flour such as the wheat flour disclosed in Chemical Abstracts 79(5):30641 (1973). Thus, even if the claims are not anticipated by Maat, they are clearly rendered obvious by that reference.

All of applicant's argument regarding this ground of

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rejection has been full considered but is not persuasive of error. Contrary to applicant's argument, the arabinoxylan ferulate present in the Maat's wheat flour is clearly water soluble. See Geissman. Thus, the hemicellulosic material in Maat's composition clearly meets the limitation regarding water solubility. In this regard Maat clearly discloses a composition comprising the claimed ingredients.

It is noted, as argued by applicant, that Maat discloses adding the enzymes to the flour/dough for a different reason (improvement of rheological properties of the dough) than applicant. However, it is well established that claimed subject matter is properly considered obvious as long as the prior art suggests its practice, even if the prior art motivation is different than applicant's. Therefore, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Lastly, it is not clear why applicant argues that Maat's combination would not induce the gelling effect of the claimed invention. Maat combines the claimed ingredients. If Maat's ingredients do not provide the claimed gelling effect, then the

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invention does not function as asserted. With regard to Geissman, the reference is cited not so much as to modify Maat, but to demonstrate that combination of the claimed ingredients would be expected to induce the cross linking reaction responsible for the claimed gelling. It is therefore respectfully submitted that the rejection must be maintained.

Claims 1-3, 7-26 and 28-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greenshields et al (U.S. Pat. 5,530,112) in view of Crawford et al (U.S. Pat. 5,200,338).

Greenshields discloses the peroxidase-catalyzed oxidative gelling of feruloylated arabinoxylans from various plant and cereal sources, and the use of said gels in all of the applications recited in the claims. See, e.g., Abstract; see also col. 5, lines 17-50. Greenshields differs from the claims in that Greenshields adds the peroxidase's substrate, peroxide, directly to the gelling composition, as opposed to generating the peroxide *in situ* by adding glucose oxidase and glucose, as recited in applicant's claims.

However, Crawford clearly discloses that a combination of glucose and glucose oxidase can be used effectively to generate *in situ* the peroxide required for peroxidase action on a

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polysaccharide substrate. See col. 6, lines 32-43. Thus, the artisan of ordinary skill at the time of applicant's invention clearly would have recognized that an effective method of generating the peroxide required for peroxidase action in Greenshields' process would have been the generation of the peroxide *in situ* by adding glucose and glucose oxidase to the gelling composition, as disclosed in Crawford. The artisan of ordinary skill, reasonably expecting that Crawford's *in situ* peroxide generation methods would have functioned in Greenshields' process, clearly would have been motivated to have substituted Crawford's methods for the direct addition of peroxide disclosed in Greenshields. Therefore, absent some unexpected result, the claims must be considered obvious under § 103(a).

All of applicant's argument regarding this ground of rejection has been fully considered but is not persuasive of error. It is noted that Crawford discloses the *in situ* generation of peroxide for use in a degradative process employing a peroxidase, whereas Greenshields' process is directed to a gelling process employing a peroxidase. However, the critical feature common to both processes is that each process employs a peroxidase to generate a final product, and peroxidases require a peroxide substrate. Thus, the artisan of

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ordinary skill, recognizing the need for an effective method of generating the peroxide required for peroxidase action in Greenshields' process, would have reasonably expected that Crawford's method of *in situ* peroxide generation, by adding glucose and glucose oxidase to the gelling composition, would have been suitable for use in Greenshields' process. It is therefore respectfully submitted that the rejection of record must be maintained.

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Francisco C Prats whose telephone number is 703-308-3665. The examiner can normally be reached on Monday through Friday, with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G Wityshyn can be reached on 703-308-4743. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.



Francisco C Prats
Primary Examiner
Art Unit 1651

FCP
March 12, 2002